

REMARKS

In the Office Action, the Examiner rejected claims 1 to 16 as being anticipated by U.S. Patent No. 5,823,541 (Dietle et al.).

The Examiner suggested that applicant should claim the "seal assembly" in order for the Examiner to give patentable weight to the rotary shaft, O-rings and pump. Applicant appreciates the Examiner's suggestions in this regard and has amended the claims accordingly. In particular, claims 1 to 9 that formerly were directed to a "seal" are now directed to a "seal assembly". In independent claim 1, the shaft and O-rings are now positively claimed as part of the seal assembly. Claim 4, which formerly referred to a conventional centrifugal pump in an incidental manner now positively claims the seal assembly in combination with the pump.

Independent method claims 10 and 16 have been amended based on the amendments made to claim 1.

The Examiner's suggestions in this regard are appreciated.

As to the prior art, it is submitted that the Dietle patent is deficient as an anticipation, or as the basis of an obviousness rejection, primarily in that Dietle does not disclose the use of stationary O-rings in sealing contact with a rotary shaft and against which the shaft rotates in use. The use of O-rings as claimed by applicant is contrary to traditional O-ring type seals. As noted in applicant's description, for example, at lines 25 to 29 on page 2, it is believed that the particular application of O-rings claimed by applicant works because the fluid that is circulated through the chamber defined between the O-rings protects the O-rings against failure due to abrasion by the shaft.

Dietle is concerned with a cartridge for sealing against a rotary shaft. However, in Dietle, the seals that are in contact with the shaft (denoted 21, 23 and 27 in the drawings) are referred to as lubricated hydrodynamic seals -- see column 5, lines 51 to 57 and column 9, beginning at line 6 -- not O-rings.

Reference numeral 12 in Fig. 1 of the drawings of Dietle does denote an O-ring seal but this is described at column 5, line 7 as a "static seal". Further, seal 12 does not seal against rotary shaft 7. Dietle also discloses a seal 45 near the upper end of the shaft but this too is a static seal that rotates with the shaft instead of the shaft rotating against the seal. Column 10 at line 10 refers to the possibility of using an O-ring as a redundant seal in combination with the seal 45 but again this would be a static seal.

In summary, Dietle fails to disclose or suggest applicant's invention as now claimed. Specifically, there is no disclosure or suggestion of the use of O-ring seals against which the shaft rotates, in combination with an annular chamber defined between the O-rings and through which a cooling fluid is circulated in use.

Favourable reconsideration is respectfully requested. Again, the Examiner's co-operation in suggesting a revised claim format is appreciated.

Respectfully submitted,
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